Federal Communications Commission
Public Safety and Homeland Security Bureau

The FCC and Next Generation 911

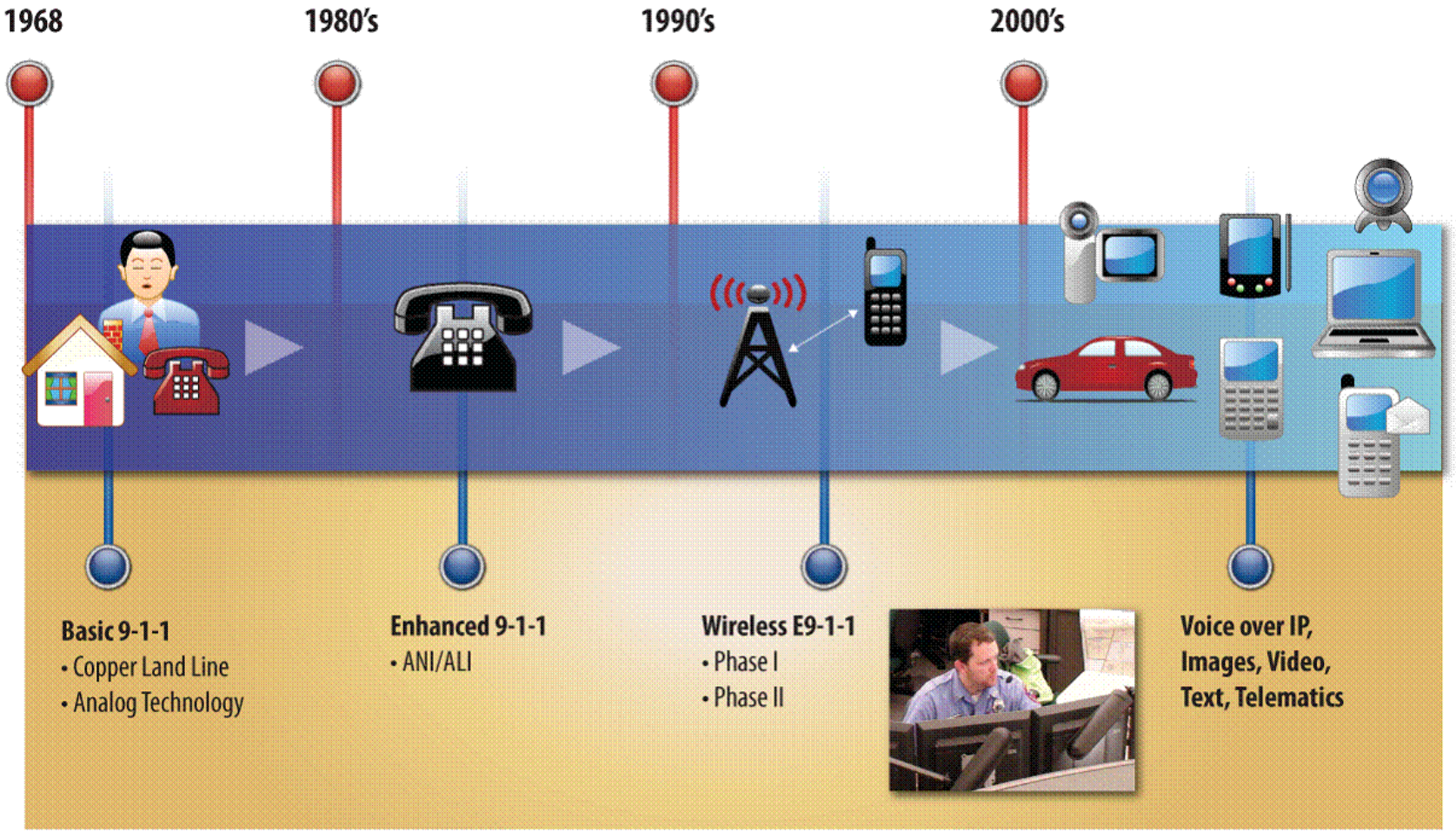
State 9-1-1 Advisory Board

Sacramento, California

September 27, 2011

David L. Furth
Deputy Bureau Chief
Public Safety and Homeland Security Bureau, FCC

From Legacy to Next Generation 911



NG911 Notice of Inquiry December 2010

- What capabilities (media types) will NG911 support?
- What will NG911 network architecture look like?
- What is needed to implement the transition to NG911?
- What should be the role of the FCC, other federal agencies, and state, Tribal, and local governments?

FCC NG911 Five-Step Plan

- Develop location accuracy mechanisms for NG911 -- July 2011 FNPRM
- Enable consumers to send text, photos, and videos to PSAPs – September 2011 NPRM
- Develop an NG911 funding model – September 2011 FCC Cost Study
- Facilitate the completion and implementation of NG911 technical standards -- Ongoing
- Develop an NG911 governance framework -- Ongoing

NG911 Location Accuracy FNPRM
July 2011

- FNPRM seeks comment on how to support automatic location determination for NG911
- Automatic location is complex because broadband consumers often use "over-the-top" services that are not provided by the underlying network access provider
  - In an emergency call scenario, the over-the-top service provider may not have the user's location information, while the network provider may have location information but not know when the user is placing an emergency call

NG911 Location Accuracy FNPRM
July 2011

- Potential NG911 automatic location solutions
  - User "self-locates" using location information generated by the device or application (e.g., A-GPS-enabled smartphones)
  - Underlying broadband provider generates location information based on fixed access point location (e.g., indoor environments)
- FNPRM seeks comment on how to leverage new commercial location technologies to support NG911 automatic location

NG911 Notice of Proposed Rulemaking September 2011

- What are potential approaches to enabling text-to-911 and multimedia-to-911?
  - Short-term options include SMS-based texting
  - Long-term options include IP-based tecnologies capable of delivering real-time text, photos, videos, and other data to PSAPs
- NPRM explores costs and benefits of short-term and long-term alternatives
- Ability of PSAPs to handle increased information flow is a key issue

7

NG911 Notice of Proposed Rulemaking September 2011

- What should be the FCC's role in expediting the deployment of NG911 text and multimedia?
  - Regulatory and non-regulatory options considered
  - Should PSAP technical readiness be a precondition to FCC NG911 regulation of carriers?
  - What are technical readiness elements?
  - Should technical threshold be achieved at the state or regional level?
- Should states eliminate regulatory barriers to NG911 deployment?

NG911 Notice of Proposed Rulemaking September 2011

- How to use text and multimedia to enhance 911 access for people with disabilities
  - NG911 overlap with 21st Century Accessibility Act
- Consumer education and disclosure mechanisms to address non-uniform availability of NG911
- Should 911 traffic be prioritized during major emergencies?
  - Network congestion affected 911 traffic after August 23 East Coast earthquake
  - NPRM examines prioritization on both legacy and future wireless networks

PSHSB NG911 Connectivity Cost Study
September 2011

- Study of construction costs and recurring costs for nationwide NG911 network connectivity and call routing between the PSAP and the commercial service provider
  - Limited focus – addresses a subset of total NG911 costs
- Two alternative cost models
  - Baseline – Assumes current number of PSAPs nationally
  - Cost-Effective – Assumes 35% fewer PSAPs and greater use of hosted vs. dedicated solutions

Cost Study Assumptions

Parameters	Small PSAPs	Medium PSAPs	Large PSAPs
Seat size	1-5	6-49	50+
Percentage of PSAPs of each size	80 %	19 %	1 %
PSAPs selecting the hosted solution (Option B)	98 %	50 % (75 %)	0 % (50 %)
Bandwidth required	2 x 10 Mbps	2 x 10 Mbps	2 x 100 Mbps
PSAPs upgraded with dual fiber access	55 %	75 %	100 %
PSAPs that incur special construction costs for installing new or upgrading existing fiber	45 %	40 %	30 %
Non-recurring cost (NRC) for network access ($M)	0.5…0.75	0.75…1.5	1.5…3.0
Monthly cost for fiber lease	2 x $1,150	2 x $1,150	2 x $8,750
NRC for hosting services	$10,000	$25,000	$50,000
Monthly recurring charge (MRC) for hosting services	$1,200	$1,200	$1,200

Baseline Model

All PSAPs	Non-Recurring Costs (NRC)
Small	$302 M
Medium	$776 M
Large	$153 M
All PSAPs - Total NRC	$1.23 B
All PSAPs - Total Recurring Costs over 10 years	$1.45 B
All PSAPs - Total 10 year Recurring Cost + NRC	$2.68 B

Cost-Effective Model

All PSAPs	Non-Recurring Costs (NRC)
Small	$203 M
Medium	$297 M
Large	$56 M
All PSAPs - Total NRC	$556 M
All PSAPs - Total Recurring Costs over 10 years	$888 M
All PSAPs - Total 10 year Recurring Cost + NRC	$1.44 B